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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/460,965	12/14/1999	NING XUE	99-222	3179

24319 7590 09/05/2003

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EXAMINER

WERNER, BRIAN P

ART UNIT	PAPER NUMBER
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2621

DATE MAILED: 09/05/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/460,965

Applicant(s)

XUE, NING

Examiner

Brian P. Werner

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 December 1999 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                  | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____.  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____. | 6) <input type="checkbox"/> Other:  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 112*

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 2-4, 9-11 and 16 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 2 requires "said determining step being based upon at least a result of said average mean calculating step." Claim 3 requires "said determining step being based upon at least a result of said average variance calculating step." Claim 4 requires "said determining step being based upon at least a result of said average variance and average mean calculating step." Claims 9-11 recite equivalent limitations to those of claims 2-4 respectively. Claim 16 recites limitations equivalent to claim 4. Because the issues are all the same, claim 4 will be used to exemplify the rejection.

Claim 4 requires the determining of whether a predetermined condition is satisfied based on a result of calculating an average variance and an average mean. The original specification does not link the "predetermined condition" determination with the calculation of the "variance" and "mean". That is, the original specification states on

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several occasions that the satisfaction of a predetermined condition is determined (i.e., at page 7, line 28, page 8, lines 9 and 31 and page 9, line 7). However, the specification never mentions that the determination is based on a "mean" calculation, a "variance" calculation, or both.

The following quotations regarding the written description requirement of original claims are extracted verbatim from MPEP 2163:

To satisfy the written description requirement, a patent specification must describe the claimed invention in sufficient detail that one skilled in the art can reasonably conclude that the inventor had possession of the claimed invention. See, e.g., *Vas-Cath, Inc. v. Mahurkar*, 935 F.2d at 1563, 19 USPQ2d at 1116. >However, a showing of possession alone does not cure the lack of a written description. *Enzo Biochem, Inc. v. Gen-Probe, Inc.*, 296 F.3d 1316, 1330, 63 USPQ2d 1609, 1617 (Fed. Cir. 2002).<

A question as to whether a specification provides an adequate written description may arise in the context of an original claim which is not described sufficiently (see, e.g., >*Enzo Biochem*, 296 F.3d at 1329, 63 USPQ2d at 1616 (Fed. Cir. 2002);< *Eli Lilly*, 119 F.3d 1559, 43 USPQ2d 1398), a new or amended claim wherein a claim limitation

However, as discussed in paragraph I., *supra*, the issue of a lack of adequate written description may arise even for an original claim when an aspect of the claimed invention has not been described with sufficient particularity such that one skilled in the art would recognize that the applicant had possession of the claimed invention. The claimed invention as a whole may not be adequately described if the claims require an essential or critical feature which is not adequately described in the specification and which is not conventional in the art or known to one of ordinary skill in the art. For example, consider

From these citations, it is clear that a written description rejection is appropriate for original claims when the claimed invention has not been described with sufficient

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particularity such that one skilled in the art would recognize that the applicant had possession of the claimed invention; especially where an essential or critical feature is not adequately described which is not conventional or known. In the case of claim 4, the feature is critical (i.e., the determination of whether a predetermined condition is satisfied is critical to the invention as it is a key step in the independent claims). Given that the specification does not describe the aforementioned limitation at all, it is the examiner's contention that it is not adequately described.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-7 are rejected under 35 U.S.C. 102(e) as being anticipated by Westerman (US 6,529,638 B1).

Regarding claim 1, Westerman discloses a method comprising:

partitioning an image into two or more sub-blocks (figure, the image is partitioned in to 8X8 sub-blocks; see column 4, line 29), each containing a predetermined number of pixels (8 x 8) where a boundary between the two sub-blocks is defined (figure 1,

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numeral 6; "boundary" at column 4, line 47), each pixel having a value ("intensities" at column 4, line 47; the intensities are designated by the "h" numbers in figures 1 and 2);

determining whether a predetermined condition is satisfied (this is met by the reference in at least two different ways: First, a pixel must be "near the block boundary 6" at column 4, line 47; the entire disclosed process of adjusting pixel values is predicated upon this determination; Second, the condition of comparing the variances at figure 2, numeral 44 with the thresholds "t" at figure 2, numeral 46 must be satisfied before the pixel adjustment can commence; i.e., the condition that the variance must be placed in one of four bins based on a comparison with a threshold "t" must be satisfied); and

upon satisfaction (e.g., if a pixel is near the block boundary), at least for a first pixel disposed proximal to the boundary (e.g., "h2"), recalculating the pixel video value for the first pixel (column 5, line 40, "h2" is recalculated based on the equation) based on the pixel video value of a second pixel disposed proximal to the first (in the equation at column 5, line 40, the new pixel value for h2 is calculated based on the neighboring pixels of h1, h3 and h4).

Regarding claims 2-4, the determining step (e.g., the condition that the variance must be placed in one of four bins based on a comparison with a threshold "t" must be satisfied) is based upon at least a result of the calculation of a variance (figure 2, numeral 44) and a mean (figure 2, numeral 42) (Note: the specification makes no distinction between an "average" mean or variance, from the well know mathematical definitions of a mean and a variance).

Regarding claim 5, the second pixel is disposed in a different sub-block from the first (i.e., as depicted in figures 1 and 2, pixel "h4" which is a second pixel as described above is disposed in the sub-block to the right of the pixel "h2" that is being adjusted).

Regarding claim 6, both horizontal and vertical algorithms are disclosed ("horizontal and vertical" at column 6, line 60; the horizontal and vertical algorithms are depicted in figure 1).

Regarding claim 7, a predetermined number of pixels is disclosed (i.e., four (4) pixels as described in the equation at column 4, line 57, and as depicted in figures 1 and 2).

### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 8-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Westerman (US 6,529,638 B1) and Andrew (US 6,563,958 B1).

Claims 8-14 recite a computer readable medium storing computer implemented steps equivalent to those of claims 1-7 above. Claims 15-20 recite an apparatus for performing a method equivalent to claims as discussed in the 102 rejection above.

While Westerman teaches those steps, Westerman does not teach a computer readable medium implementing those steps in apparatus.

Andrew discloses a computer implemented system (i.e., apparatus) for performing the exact same process of filtering boundaries and removing block artifacts, comprising a computer readable medium containing instruction causing the computer to performs the boundary filtering steps (i.e., figure 6). Regarding claims 18 and 20 specifically, Andrew teaches a means for reading a video (figure 6, numeral 614 and 612), a mean for filtering (numeral 604) and a means for displaying (numeral 616). Regarding the means plus function language, applicant's disclosed structure is that of a computer implemented invention (i.e., refer to applicant's specification at page 4, lines 5 and 6). The Andrew system teaches equivalent structure.

It would have been obvious at the time the invention was made to one of ordinary skill in the art to implement the method of Westerman using a computer implemented system as taught by Andrew, in order to ensure a high computational speed, the capability of program algorithm modification without changing hardware, and to provide the ability for the filtering algorithm to be disseminated and used by the millions of people who have access to computers.

### ***Conclusion***

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian P. Werner whose telephone number is 703-306-3037. The examiner can normally be reached on M-F, 8:00 - 4:30.



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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo H. Boudreau can be reached on 703-305-4706. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4750.

Brian Werner  
Patent Examiner  
Friday, August 29, 2003

A handwritten signature in black ink, appearing to be 'B. Werner', with a long horizontal flourish extending to the right.

**BRIAN WERNER  
PRIMARY EXAMINER**